



**CALIFORNIA
HIGH-SPEED RAIL
AUTHORITY**

BRIEFING: August 2010 BOARD MEETING AGENDA ITEM #6

TO: Chairman Pringle and Authority Board Members

FROM: Carrie L. Bowen, Regional Director

DATE: August 2, 2010

RE: Merced to Fresno Section Supplemental Alternatives Analysis

Discussion

The purpose of this agenda item is to summarize the proposed changes to the Preliminary Alternatives Analysis Report for the Merced to Fresno Section, previously at the April 8th, 2010 Board Meeting.

The proposed changes are:

Refinement of the Two Wye connections to San Jose alignment alternatives

- Henry Miller/Ave 24
- South of SR 152 (Ave 22 & Ave 21)

Two New Design Options:

- Design Options to by-pass Le Grand
- Design Option west of Chowchilla

Heavy Maintenance Facility site locations were considered:

- Preliminary feasibility of the 8 proposed Heavy Maintenance Facilities was evaluated to determine which sites should be carried forward
- Three sites were found to be non-feasible to be carried forward

Staff Recommendation

The staff requests the Board to concur with the following recommendations:

San Jose Wye Connections

- ✓ Carry forward refined Ave 24 Wye (large triangle)
- x Do Not Carry forward Ave 22 Wye for South SR 152 Option
- ✓ Carry forward Ave 21 Wye for South SR 152 Option

New Design Options

- ✓ Carry Forward Le Grand Design Options
- ✓ Carry Forward West Chowchilla Design option

Heavy Maintenance Facility Sites

- x Do not Carry Forward 3 non-feasible sites (Harris Farms, Harris-Kwan, Mission Ave)
- ✓ Carry Forward 5 feasible sites (Castle Commerce Center, Fagundes, Gordon Shaw, Harris-DeJager, Kojima Development)

Attachments:

- ✓ Supplemental AA Report Executive Summary

Supplemental AA Report Executive Summary

ES.1 Supplemental Alternatives Analysis Report Results

This August 2010 Merced to Fresno Supplemental Alternatives Analysis (AA) Report updates the Draft AA Report that the California High Speed Rail Authority (Authority) issued for the Merced to Fresno high-speed train (HST) section in April 2010.

This Supplemental AA is brought forward because of a series of evaluations, developments and refinements of previous design options and heavy maintenance facilities, with which the Board had concurred. The proposed revisions include:

- The alternatives coming from the San Jose to Merced Section join as a wye junction with the Merced to Fresno Section. As part of the wye analysis, a design option emerged which takes advantage of the Ave 24 Wye that would reduce total length of alignment, minimize elevated guideway, reduce number of UPRR and SR99 crossings, and facilitate options to mix portions of the UPRR/SR99 with the BNSF Alternative. Also, the family of South of State Route 152 Wyes (Avenues 21 and 22) were further evaluated to find the Ave 22 options produce higher negative impacts.
- Series of two design options were considered to improve the previous designs to avoid/reduce their associated impact. For A1 alignment, Design Options around the City of Le Grand were developed. For A2, a Design Option to the West of Chowchilla, in combination with Ave 24 Wye was considered.
- Finally, the Merced to Fresno HST Section has conducted a screening analysis of the proposed Heavy Maintenance Facilities between Merced and Fresno. The Supplemental AA Report presents the changes from the earlier Draft AA Report, while referencing the previous material and text that has not changed.

Wye Analysis

South of SR 152 (Avenues 22 and 21) Wye - As previously reviewed in the Draft AA, both the alternatives being carried forward into the EIR/EIS include two optional wye junctions as the HST connects to the San Jose to Merced HST Section. Those included the Ave 24 Wye and the South of SR152 Wye. The South of SR152 Wye was initially considered along Avenue 22, but design revealed that the north and south bound legs potentially interfered with valuable resources, such as:

- The Chowchilla Airspace contours
- A new Paleontological Museum
- A new landfill
- SR99 Interchanges.

Additional community and agency input and concerted design led to general support from the Cities of Chowchilla, Madera, and Merced and from Merced and Madera Counties on the wye alignment along Avenue 21. Madera County has proposed the possibility of relinquishment of the roadway to reduce farmland impacts. The Avenue 22 Wye alignment is recommended to be eliminated from consideration.

Henry Miller/Ave 24 Wye – The preferred Program EIR/EIS alignment in the Merced to Fresno Section from San Jose to Merced follows Henry Miller Road in Merced County. Henry Miller becomes Avenue 24 as it nears the City of Chowchilla. This alignment has presented many concerns to the community of Chowchilla and the farming community within Madera and Merced Counties. The original wye legs encroached on the City of Chowchilla on three sides, creating a triangle around Chowchilla. In efforts to reduce the encroachment on the City and minimize farmland impacts, a larger wye is proposed. This wye is wide enough to be outside Chowchilla's future growth boundary and reduce the amount of diagonal severance on adjacent farmlands by following section lines to the extent possible and further reducing the length of the curved alignment.

An extensive cooperative study of the two wyes, by both the Merced to Fresno and the San Jose to Merced Section teams revealed that the general impacts are similar and therefore both Wyes are

recommended to remain for further evaluation in the Draft EIR/EIS. The team recommends carrying the larger Ave 24 Wye into the Draft EIR/EIS.

Design Options

East Le Grand Design Option – The original BNSF - A1 Alternative passes through the City of Le Grand along the east side of the BNSF. This original alternative is not supported by the County of Merced and the communities of Planada and Le Grand. The team has reviewed design option suggestions by the County to avoid Le Grand by passing just east of the Le Grand town limits. These options connect to both of the previous design options along Mission Avenue and Mariposa Avenue. They are called the **Mission, East Le Grand** and **Mariposa, East Le Grand** respectively.

West Chowchilla/Ave 24 Design Option – Similar to Le Grand, the City of Chowchilla remains concerned that the UPRR/SR99 alternative would travel through their community. Recently, the team evaluated a design option to the UPRR/SR99 alternative in the vicinity of Chowchilla that may have multiple benefits to the project as well as effectively avoiding the City of Chowchilla. Upon reviewing the pros and cons of the various wye options, the team found that if the UPRR/SR99 alternative followed west along the Ave 24 Wye alignment, going westerly around Chowchilla then returning to the UPRR/SR99 corridor, the design option would eliminate 10 miles of high speed rail track construction compared to the UPRR/SR99 - A2 Alternative. Additionally this would reduce impacts associated with the overall reduction in length. The disadvantage of this design option is an increase in travel time between Los Angeles and Sacramento, but travel time for Los Angeles to San Francisco and San Francisco to Sacramento would be maintained. Pros and Cons associated with this Design Option are:

Pros

- Potential to avoid/reduce impact to Cities of Chowchilla, Fairmead and Madera
- Works with both A1-BNSF and A2- UPRR/SR99 Alternatives
- 10 miles shorter than A2 – UPRR/SR99 Alternatives
- Eliminates 3 complex structure crossings of SR99 and UPRR
- Lower Cost
- Less Impact to Farmlands

Cons

- Increased Travel Time between Los Angeles and Sacramento

By designing the track to allow north-south movements west of Chowchilla, the small 4-mile additional curve results in reducing the total area inside the Wye and Chowchilla would not have tracks along the SR99 Corridor (which lie east of the downtown).

Additionally, this design option could also work with BNSF - A1 Alternative to connect UPRR/SR99 with the BNSF via the Ave 24 Wye south bound leg if proved to be desirable or beneficial. Other benefits of this concept are that linking these alternatives in a hybrid would provide Madera another avoidance alternative than merely the BNSF – A1 Alternative.

It should be noted that early discussions with involved Cities and Farms Bureaus have already taken place. While this design option is new, there are mixed impressions about the benefits Table below which summarizes the early feedbacks of these agencies to date.

Early feedbacks to West Chowchilla Design option	
Involved Agencies	Early Feedbacks
Merced and Madera Counties	Merit to explore, Concerns on Local Farmlands
Le Grand	Merit to explore, Concerns on Local Farmlands
Madera County	Interest, No Commitment
City of Madera	No Commitment
Chowchilla (officials and others)	Opposes, still constrains growth, still results in larger farmland impacts compared to A1 - BNSF
Merced and Madera Farm Bureaus	Oppose, Advocate A2 and State Route 152

Screening Heavy Maintenance Facility (HMF) Sites

For the Merced to Fresno section, eight potential heavy maintenance facility sites were identified in proposals submitted in response to the Request for Expressions of Interest. The sites were reviewed to identify those that were feasible and practical to construct. Key analysis criteria included proximity to HST mainline alternatives still under consideration, the feasibility of providing yard track connections at both ends of the yard with a minimum length of spur tracks, and potential environmental factors. As a result of this analysis, three of the potential sites are recommended to be dropped from further consideration:

- Mission Avenue
- Harris-Kwan
- Harris Farms.

The primary reason for dropping the Mission Avenue site is the difficulty in providing access to the site from the north. The Mission site is approximately 3 miles south of the proposed Merced station. Most of the distance along the HST alignment between the site and the station consists of a high-speed curve on a high aerial structure above SR-99. Design objectives require that yard turnouts be placed on straight sections of track. In this case, the nearest location for a yard turnout would be north of the Merced Station. Therefore, the Mission site would require a north yard spur running at a high elevation through downtown Merced.

The primary reason for recommending the Harris-Kwan and Harris Farms sites be dropped is that they are no longer on alignment alternatives that are still under consideration. As a result, they would each require spur tracks exceeding five miles in length for access. The additional five miles of spur track would have other environmental or farmland impacts.

There are five sites recommended to be carried forward for evaluation in the Draft EIR/EIS. It is important to note that they do not all work with each alternative. Those that are being recommended with the following alternatives to be studied further are:

- Castle Commerce Center - access to both alternatives, with access only in and out south side in Phase 1. North access could be provided in Phase 2.

- Kojima - Only with BNSF Alternative, Ave 21 Wye
- Harris-DeJager - Only with UPRR Alternative, Ave 21 Wye
- Gordon Shaw - Only with UPRR Alternative, Ave 24 Wye
- Fagundes - access to both alternatives via Ave 24 Wye

Recommendations

The staff requests the Board to concur with the following recommendations:

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